

MISCELLANEOUS

158928g Role of carbon monoxide in cigaret smoking. I. Carbon monoxide yield from cigalets. Robinson, Jack C.; Forbes, William F. (Fac. Math., Univ. Waterloo, Waterloo, Ont.). *Arch. Environ. Health* 1975, 30(9), 425-34 (Eng). Detn. of CO [630-08-0] deliveries of 20 major Canadian brands of cigalets indicated that the CO yields increased with puff vol. and tobacco moisture, and decreased with increased paper porosity. Thus, smokers can lower their CO exposure by decreasing their puff vol., smoking cigalets manufd. from high porosity paper, by taking fewer puffs, and decreasing their tendency to inhale. Since CO and tar deliveries are correlated, these measures would also tend to decrease a smoker's exposure to tar.

Chemical Abstracts 83: 158928g.

The Cigarette as a Source of Carbon Monoxide

Summary. The cigarette as an important source of carbon monoxide over and beyond automobile exhaust contamination of the air in metropolitan areas was the subject of investigation and discussion in this article. The results were as follows:

1. The CO content of cigarette smoke increases as a greater portion of the cigarette is smoked, increasing from initial $2.0 \pm 1\%$ to $5.0 \pm 1\%$ after 60 mm of the cigarette has been consumed.
2. Approximately 7.5 ml of CO (STPD) is absorbed by smoking 45 mm of a cigarette.
3. The CO concentration in alveolar air of a smoker is closely related to the number of cigarettes smoked per day.
4. When breathing CO-free ambient air, the individual who smokes 35 to 40 cigarettes a day attains a CO concentration in his alveolar air of approximately 0.005 vol.-% (50 ppm).
5. The alveolar CO concentration and the CO content of expired air are essentially dependent upon the concentration of CO in inspired air, as well as the alveolar O_2 concentration, alveolar ventilation and total hemoglobin content.

Key-Words: Cigarette — CO Production — Carboxyhemoglobin — CO Elimination.

Article summary. H. Haebisch, "The Cigarette as a Source of Carbon Monoxide," Archives of Toxicology, Vol.26 (1970), 251-261.

SUMMARY

The authors report the current literature concerning the composition of the gas phase of cigarette smoke and explain their researches on the main-stream and side-stream cigarette smoke, in order to individualize the most suitable gaseous component to employ as a rapid index of environmental pollution from tobacco smoke.

From their researches the authors draw the following conclusions:

- 1) The presence of toxic gases in high concentration both in main-stream and in side-stream cigarette smoke is confirmed.

2) The main-stream smoke of five cigarettes contains about the maximum allowable concentration (M.A.C.) of CO/m^3 (110 mg) and it has been also shown that in the air of a small box (as it is a car) the M.A.C. may be easily reached after smoking about a packet of cigarettes.

3) For a rapid evaluation of environmental pollution from tobacco smoke the carbon monoxide may be taken as a significant index, because:

- a) it is always present in very high quantities in room-air where people smoke;
b) in these ambients, if they are heated rationally, it is produced exclusively

by tobacco smoke;

c) it may be evaluated easily, rapidly and exactly by « Draeger's System ».

Article summary. G. Scassellati Sforzolini & A. Savino, "Evaluation of a Rapid Index of Environmental Pollution by Cigarette Smoke, with Special Reference to the Composition of the Gaseous Phase of the Smoke," Rivista Italiana d'Igiene, Vol.28 (1968), 43-55.

Carbon monoxide in tobacco smoke. H. E. ARMSTRONG AND E. V. EVANS. *Brit. Med. J.* 1922, I, 992-3.—Cigarette smoke contains traces of H_2S and HCN . The amt. of CO varied with the rate of smoking, increasing with increased rate. It is normally from 0.6 to 0.9% (different brands). Cigar smoke contains up to 8% (rapid smoking) CO.

Chemical Abstracts 16: 3316.